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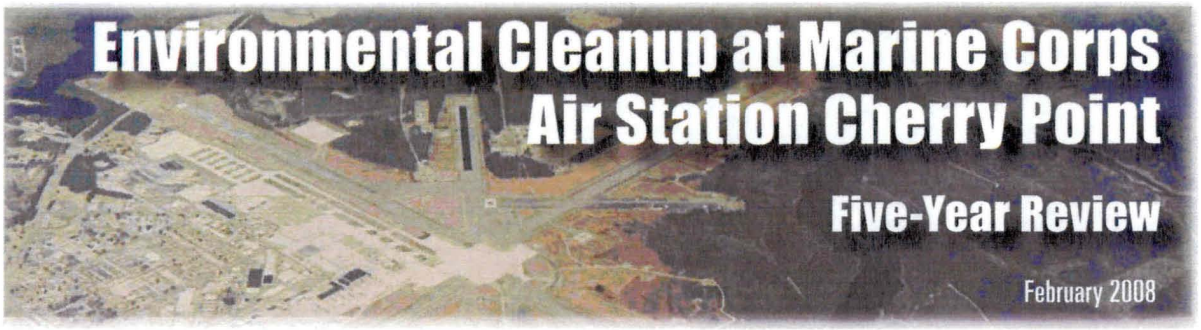


Environmental Cleanup at Marine Corps Air Station Cherry Point

Five-Year Review

February 2008

This fact sheet describes the Department of Defense's (DoD's) environmental cleanup program at Marine Corps Air Station Cherry Point.

Specifically, the DoD, working in partnership with the U.S. Environmental Protection Agency and the North Carolina Department of Environment and Natural Resources, has just completed a five-year review of ongoing environmental cleanup actions. The purpose of the five-year review is to ensure that current cleanup activities are effectively protecting human health and the environment.

This fact sheet provides an overview of the five-year review and how you can learn more about the program.

Introduction

Marine Corps Air Station (MCAS) Cherry Point is a military installation near Havelock, North Carolina. The Air Station provides training and support for the Fleet Marine Force Atlantic aviation units and serves as a primary aviation supply point.

In more than 60 years of operation since MCAS Cherry Point was commissioned in 1942, a variety of wastes have been generated. Past spills and formerly-acceptable use and disposal practices have resulted in soil and groundwater contamination at various "sites" on the installation.

The Department of Defense (DoD) is responsible for identifying, assessing, and cleaning up contamination resulting from past handling, storage, and disposal of these potentially hazardous wastes. This investigation and cleanup is being conducted under the Navy's Installation Restoration Program (IRP) and under provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly referred to as "Superfund."

Five-Year Review

The Navy, the U.S. Environmental Protection Agency (USEPA), and the North Carolina Department of Environment and Natural Resources (NCDENR) have completed a five-year review of ongoing environmental cleanup actions at MCAS Cherry Point. The purpose of the five-year review is to ensure that the cleanup actions are protecting human health and the environment. Seven "operable units," covering 26 sites, were evaluated in this five-year review.

An Operable Unit (OU) is a group of sites that are treated together during initial investigations, often because of similar cleanup requirements or historical use.

The next five-year review for MCAS Cherry Point will be completed by March 2013.

Operable Unit 1

Site Overview

Operable Unit 1 is an industrial area in the southern portion of the installation. It consists of 12 sites, grouped because of their proximity to each other in the industrialized portion of the base. Seven of these sites have been identified as sources of groundwater contamination near and under Building 133. The primary contaminants of concern are volatile organic compounds (usually solvents).

Soil vapor extraction (SVE) systems remove harmful chemicals, in the form of vapors, from the soil above the water table. Vapors are the gases that form when chemicals evaporate. The vapors are removed from the ground by applying a vacuum to pull them out.

Cleanup Activities

Soil. An air sparge/soil vapor extraction system began operation in September 1998 to remove volatile organic compounds from the soil. However, evaluation of the system indicated that it was not effectively cleaning up the soil and was not cost-effective. Therefore, the system was shut down in February 2005.

Groundwater. A pump-and-treat system began operation in February 1998 to remove volatile organic compounds from groundwater. However, detailed analysis revealed that it was not performing effectively, and continued operation could interfere with future studies that would address the entire area of groundwater contamination. Therefore, the pump-and-treat system was shut down in February 2005. Other technologies to clean up the groundwater contamination at OU1 are being evaluated.

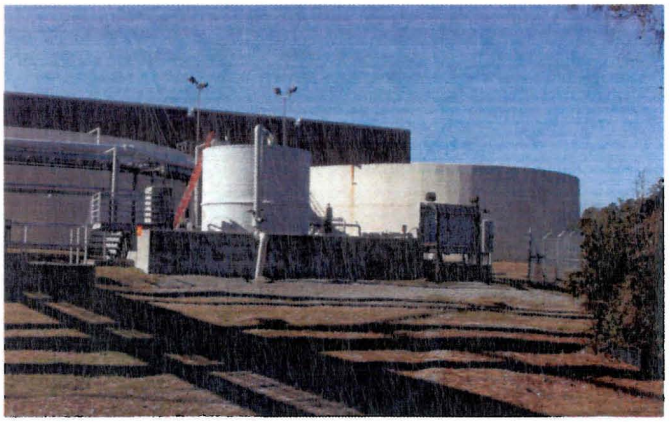
Pump-and-treat (P&T), a common method for cleaning up groundwater, involves using pumps to bring contaminated groundwater to the surface where it can be treated, often using carbon filtration. Cleaned water is then released away from the contaminated area, either in surface ponds or below-ground.

Protection of Human Health and the Environment

In the short-term, human health and the environment are protected by "institutional controls" (e.g., fences, restrictions on groundwater use or construction, etc.) These institutional controls prevent people or animals from being exposed to or ingesting contaminated groundwater. However for the remedy to be protective in the long-term, a final cleanup alternative covering the entire OU groundwater contamination area will be selected.

Next Steps

Ongoing investigations to determine the extent of groundwater contamination and alternatives for cleanup are underway. Cleanup alternatives will be evaluated and the best alternative will be selected and documented in a Record of Decision (ROD), which is scheduled to be completed by 2010.



OU1 - Industrial Wastewater Treatment Plant

Sites in Operable Unit 1

Site 15 is a drainage ditch and the area behind the Fleet Readiness Center where wastes were washed down floor drains.

Site 42 is the Industrial Wastewater Treatment Plant where waste streams from the Industrial Area Sewer System (Site 47) are discharged.

Site 47, the Industrial Area Sewer System, is a system of underground pipes and aboveground drains that convey wastewater to the treatment plant (Site 42).

Site 51 (Building 137) is a former plating shop where a 3-foot-deep sump was located to contain spills and tank overflows.

Site 52 (Building 133) is a former plating shop and drainage ditch where a 2.5-foot-deep sump was located to contain spills and tank overflows.

Site 92 includes a part of the groundwater plume near the Stripper Barn portion of Building 137, where paint is removed from aircraft.

Site 98 includes a part of the groundwater plume southeast of the Industrial Wastewater Treatment Plant, near Building 4032.

Site 16, the Sandy Branch Landfill, was also identified as contributing to the groundwater plume; however these contributions are minimal and are not a primary source of groundwater contamination at OU1.

Operable Unit 2

Site Overview

OU2 is located in the west-central part of the installation. It consists of four sites, grouped because of their proximity to the old sanitary landfill (Site 10). Investigations reveal soil and groundwater are contaminated from prior disposal practices at Site 10. The primary contaminants of concern are volatile organic compounds.

Sites in Operable Unit 2

Site 10 is approximately 40 acres and served as the primary disposal site at MCAS Cherry Point between 1955 and the mid-1980s.

Site 44A is a relatively small area within the boundary of Site 10 and was one of two areas where sludge from the sewage treatment plant was applied.

Site 46 consists of two inactive, unlined ponds that served as aeration basins for wastewater from the sewage treatment plant.

Site 76 consists of a building and parking lot where personal vehicles are repaired.

Cleanup Activities

Soil. A soil vapor extraction system was installed in 1998 to clean up soil at OU2. The system was designed to treat four areas of soil contamination, known as "Hotspots" 1-4.

An evaluation of the soil vapor extraction system revealed that contaminants were reduced below cleanup levels at Hotspots 1, 3, and 4, but contamination remained at Hotspot 2. Therefore, the system was shut down in 2005, and other technologies to clean up remaining contamination at Hotspot 2 are currently being evaluated.

Groundwater. Monitored natural attenuation was selected as the cleanup alternative for groundwater at OU2. Annual long term monitoring began in January 2002. In 2007, groundwater sampling was increased from yearly to quarterly, to better evaluate seasonal and long-term changes in concentrations of contaminants.

Monitored natural attenuation (MNA) relies on natural processes to clean up or "attenuate" contaminated soil and groundwater. Natural attenuation occurs at most sites; however, the right conditions must exist underground for natural attenuation to clean sites adequately. Scientists "monitor" or test these conditions to make sure natural attenuation is working.

Protection of Human Health and the Environment

The remedy at OU2 currently protects human health and the environment in the short term because institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue at OU2 to ensure that monitored natural attention is effectively cleaning up groundwater. In addition, other technologies are being evaluated to clean up soil at Hotspot 2.

OU2 - Soil Vapor Extraction System Emission Stack

Operable Unit 3

Site Overview

OU3 is located in the west-central part of MCAS Cherry Point. It consists of two sites (Sites 6 and 7) which were grouped because of their proximity and common waste types. Investigations at OU3 indicate that the soil and groundwater are contaminated from prior disposal practices at Site 7. The primary contaminants of concern are volatile organic compounds, polycyclic aromatic hydrocarbons, metals, and pesticides.

Sites in Operable Unit 3

Site 6 consists of three former unlined ponds where fly ash and cinders from the former power plant were disposed from the 1940s to 1970.

Site 7 was an incineration and open-burning ground used from the 1940s until approximately 1955.

Cleanup Activities

Soil. In 2000, an air sparging system was installed in-place ("in situ") to treat soil contaminated with volatile organic compounds, primarily benzene. Evaluation of the system indicated that benzene concentrations were effectively reduced and were not leaching down toward groundwater; therefore the air sparging system was shut down in 2003.

Air sparging (AS) uses air to help remove harmful vapors from contaminated soil and groundwater below the water table. When air is pumped underground, the chemicals evaporate faster, which makes them easier to remove. A vacuum then extracts the vapors.

Groundwater. Monitored natural attention was selected as the cleanup alternative for groundwater at OU3. Annual long term monitoring began in October 2002. In 2007, groundwater sampling was increased from yearly to quarterly, to better evaluate seasonal and long-term changes in concentrations of contaminants.

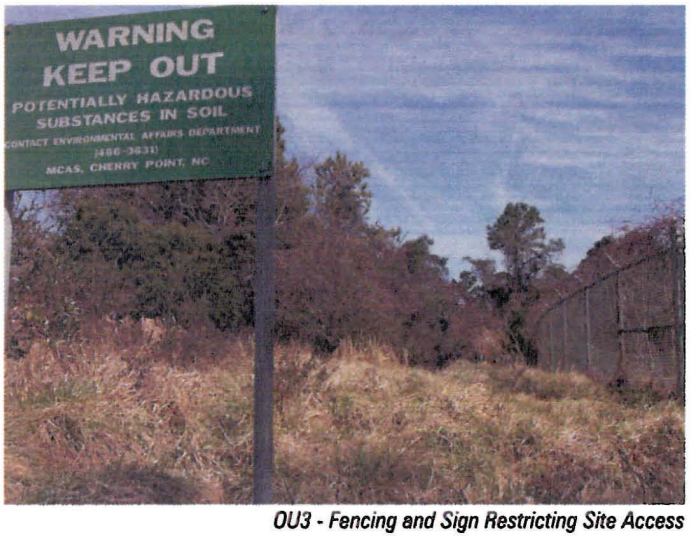
Based on groundwater sampling results, monitored natural attention has been effective in reducing contaminants of concern.

Protection of Human Health and the Environment

The soil cleanup action at OU3 is protective of human health and the environment because the system effectively cleaned up soil contaminants. The monitored natural attenuation remedy for groundwater is expected to protect human health and the environment when completed. In the short-term, institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue to ensure that monitored natural attention is effectively cleaning up groundwater.



OU3 - Fencing and Sign Restricting Site Access

Operable Unit 4

Site Overview

OU4 is located in the northwest-central portion of the base. It consists of two sites, Areas A and B. Investigations indicate that the groundwater is contaminated from prior disposal activities at Area A. The primary contaminant of concern is benzene.

Sites at Operable Unit 4

Area A Includes Site 4, the borrow pit/landfill north of Runway 14L and includes areas where soil was excavated for use as fill material at another location.

Area B was used for farming prior to the construction of the Air Station and was later developed into a lined drum storage area.

Cleanup Activities

Groundwater. Monitored natural attention was selected as the cleanup alternative for groundwater at OU4. Semi-annual long term monitoring began in May 2006. In 2007, groundwater sampling was increased from semi-annually to quarterly, to better evaluate seasonal and long-term changes in concentrations of contaminants.

Based on groundwater sampling results, monitored natural attention has been effective in reducing contaminants of concern.

Protection of Human Health and the Environment

The monitored natural attenuation remedy for groundwater is expected to protect human health and the environment when completed. In the short-term, institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue to ensure that monitored natural attention is effectively cleaning up groundwater.

OU4 - Monitoring Wells

Operable Unit 5

Site Overview

OU5 is located in the northeastern portion of the base. It consists of two sites, Sites 1 and 2, grouped because of their proximity, history, and common waste types. Investigations indicate that the groundwater is contaminated from prior disposal practices at Site 2. The primary contaminants of concern are volatile organic compounds.

Sites at Operable Unit 5

Site 1, currently wooded, was reportedly a former borrow pit/landfill.

Site 2, currently wooded, was also a borrow/pit landfill.

Some chemical waste is reported to have been disposed of at both sites. Wastes found at both sites consisted of rubble, trash, vehicle batteries, crushed 55-gallon drums, and construction debris.

Cleanup Activities

Groundwater. Monitored natural attention was selected as the cleanup alternative for groundwater at OU5. Semi-annual long term monitoring began in May 2006. In 2007, groundwater sampling was increased from semi-annually to quarterly, to better evaluate seasonal and long-term changes in concentrations of contaminants.

Based on results from recent groundwater sampling, the only contaminant exceeding the remediation goal is vinyl chloride. However, concentrations appear to be decreasing over time.

OU5 - Borrow Pit Landfill Area

Protection of Human Health and the Environment

The monitored natural attenuation remedy for groundwater is expected to protect human health and the environment when completed. In the short-term, institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue to ensure that monitored natural attention is effectively cleaning up groundwater.

Operable Unit 6

Site Overview

OU6 is the eastern portion of Runway 28, located along the eastern edge of MCAS Cherry Point. It consists of one investigation area, Site 12. Primitive burn-pits (Burn Pits A through E) were identified in historical aerial photographs. Investigations at OU6 indicate that the soil and groundwater are contaminated from prior activities at Site 12, primarily beneath former Burn Pit E. The primary contaminants of concern are volatile organic compounds, semi-volatile organic compounds, and metals.

Sites at Operable Unit 6

Site 12 currently consists of one active, modern burn pit with a concrete lining and drains to collect fire-fighting water used during training exercises.

Cleanup Activities

Soil. Contaminated soil beneath the former location of Burn Pit E was excavated and disposed of off-site. This "removal action" was completed in March 2007.

Groundwater. Monitored natural attenuation was selected to treat groundwater at OU6. Long-term monitoring as part of monitored natural attention began in June 2007 and will be conducted quarterly.

Voluntary groundwater monitoring began in May 2005 and all contaminants of concern are currently below selected criteria. These concentrations indicate that natural degradation of the contaminants has occurred at OU6.

OU6 - Backfilling after Excavation

Protection of Human Health and the Environment

The soil removal at OU6 has protected human health and the environment by effectively removing contaminated soil and eliminating the potential source for ongoing groundwater contamination.

Monitored natural attenuation is expected to protect human health and the environment when completed. In the short-term, institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue to ensure that monitored natural attention is effectively cleaning up groundwater

Operable Unit 13

Site Overview

OU13 is located in the southeastern portion of the base near Runway 32. It consists of three sites (Sites 19, 21, and 44B), grouped because of their proximity. Investigations indicate that the groundwater is contaminated from prior disposal practices at all three sites. The primary contaminants of concern are volatile organic compounds.

Sites in Operable Unit 13

Sites 19 and 21 are borrow pit/landfill areas that were used for waste disposal between the 1950s and the 1960s. Fly ash and wastes from the Air Station may have been disposed of at these sites. **Site 44B** was used for the application of sludge from the Air Station sewage treatment plant in the 1980s.

Cleanup Activities

Monitored natural attenuation was selected to treat groundwater at OU13. Long-term monitoring began in May 2006 and will be conducted semi-annually.

Sampling results indicate that monitored natural attenuation is working. In three of the seven monitoring wells, contaminants of concern were not detected for at least four consecutive rounds of sampling. Overall, concentrations of volatile organic compounds in the groundwater have decreased.

Protection of Human Health and the Environment

Monitored natural attenuation is expected to protect human health and the environment when completed. In the short-term, institutional controls are preventing people or animals from being exposed to or ingesting contaminated groundwater.

Next Steps

Groundwater monitoring will continue at the remaining four monitoring wells to ensure that monitored natural attention is effectively cleaning up groundwater.

OU13 - Monitoring Wells

For More Information

More information about environmental cleanup at MCAS Cherry Point can be found online at:

http://public.lantops-ir.org/sites/public/cherrypoint/default.aspx

The web sites includes a brief historical overview of the installation, information about environmental sites, maps, glossaries of terms and acronyms, links to other useful sites, and more information about the environmental restoration process.

Similar information can also be found at the following libraries:

Havelock-Craven County Public Library
301 Cunningham Boulevard
Havelock, NC 28532
Phone: (252) 447-7500

MCAS Cherry Point Library
Building 298, E Street
MCAS Cherry Point, NC 28532
Phone: (252) 466-3552

The Administrative Record, which is the legal record of all the information reviewed and considered to make site cleanup decisions, can also be viewed at the these libraries, or online at:

http://public.lantops-ir.org/sites/public/cherrypoint/AdminRecord.aspx

For more information, please contact:

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